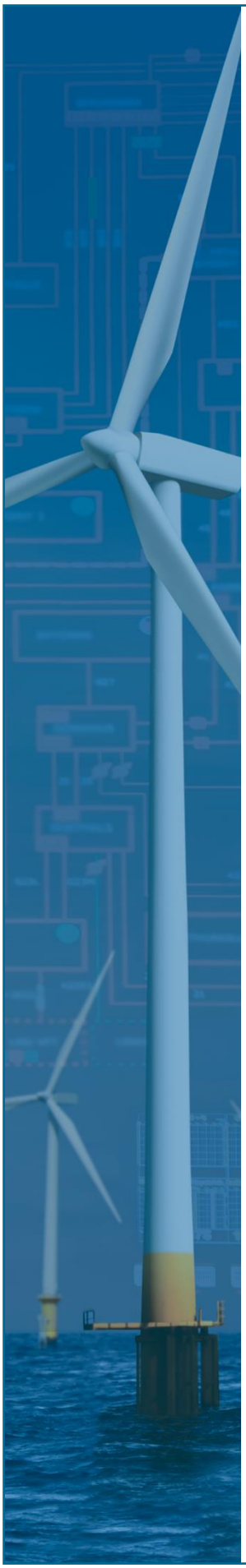

New York ISO
Independent System Operator

New York City Offshore Wind Public Policy Transmission Need: Viability & Sufficiency Assessment

October 29, 2024

Table of Contents

Executive Summary

The NYISO's Public Policy Transmission Planning Process implements the Federal Energy Regulatory Commission (FERC) Order No. 1000 directive requiring public utility transmission providers to consider in their planning processes transmission needs driven by Public Policy Requirements. The NYISO conducted this Viability & Sufficiency Assessment for the New York City Offshore Wind Public Policy Transmission Need ("NYC PPTN") to determine whether each proposal submitted by a Developer is viable and sufficient to satisfy the Public Policy Transmission Need.

The NYISO initiated its 2022-2023 cycle of the Public Policy Transmission Planning Process by soliciting proposed transmission needs that stakeholders or interested parties believe are driven by Public Policy Requirements. The NYISO filed for consideration by the New York Public Service Commission (NYPSC) the proposed transmission needs, which the NYPSC published the proposed needs for public comment pursuant to the State Administrative Procedure Act. Upon considering the various comments submitted, the NYPSC issued an order that identified the Climate Leadership and Community Protection Act (CLCPA) as a Public Policy Requirement driving the need for additional transmission to deliver offshore wind generation to New York City interconnection points.

The NYISO established sufficiency criteria in accordance with the criteria specified by the NYPSC in its order identifying the NYC PPTN. After extensive discussion with stakeholders, the NYISO created the baseline power flow study case and technical guidance documents for use in designing proposed solutions. The NYISO used the power flow study case to conduct its assessment of the sufficiency of each proposed solution.

The NYISO issued a solicitation for projects to address the NYC PPTN and received 28 proposals from four developers. The Viability & Sufficiency Assessment finds that the 28 proposed Public Policy Transmission Projects are viable and sufficient.

1. Introduction

The NYISO's regional planning process, known as the Comprehensive System Planning Process (CSPP), is comprised of four components: (1) the Local Transmission Owner Planning Process, (2) the Reliability Planning Process, including the Short-Term Reliability Process, (3) the Economic Planning Process, and (4) the Public Policy Transmission Planning Process ("Public Policy Process").[1] The NYISO also conducts interregional planning with its neighboring control areas under the Northeast Coordinated System Planning Protocol. The Public Policy Process supports the FERC Order No. 1000 directive requiring public utility transmission providers to consider in their planning processes transmission needs driven by Public Policy Requirements ("Public Policy Transmission Needs"). Section 31.4 of Attachment Y of the NYISO Open Access Transmission Tariff (OATT) describes the planning process that the NYISO, and all interested parties, shall follow to consider Public Policy Requirements[2] that drive the need for expansions or upgrades to Bulk Power Transmission Facilities (BPTFs).

The Public Policy Process consists of four main steps: (1) the identification of Public Policy Transmission Needs, (2) the proposal of solutions to identified Public Policy Transmission Needs, (3) the evaluation of the viability and sufficiency of proposed transmission and non-transmission solutions to a Public Policy Transmission Need, and (4) the evaluation and selection of the more efficient or cost-effective Public Policy Transmission Project to satisfy a Public Policy Transmission Need.

For each two-year cycle of the CSPP, the NYISO initiates the first step of the Public Policy Process after the preliminary Reliability Needs Assessment (RNA) results are released in the Reliability Planning Process. In the identification step, the NYISO solicits proposals for transmission needs driven by Public Policy Requirements, and the New York State Public Service Commission (NYPSC), or Long Island Power Authority, as applicable, considers the proposals in order to identify Public Policy Transmission Needs. The NYPSC then determines for which of those the NYISO should solicit solutions. Subsequent to the identification of Public Policy Transmission Needs, the NYISO solicits proposed solutions, and Developers submit Public Policy Transmission Projects or Other Public Policy Projects to satisfy the identified Public Policy Transmission Needs. All submissions, regardless of project type, are evaluated for their viability and sufficiency to meet the Public Policy Transmission Needs. Pursuant to the OATT, the NYISO conducted this Viability & Sufficiency Assessment for the New York City Offshore Wind Public Policy Transmission Need ("NYC PPTN") to determine

[1] *See* OATT Attachment Y.

[2] A "Public Policy Requirement" is a federal or New York State statute or regulation, including a New York State Public Service Commission order adopting a rule or regulation subject to and in accordance with the State Administrative Procedure Act, any successor statute, or any duly enacted law or regulation passed by a local governmental entity in New York State, that may relate to transmission planning on the BPTFs.

whether each Developer-submitted proposal is viable and sufficient to satisfy the identified need.

A Public Policy Transmission Project is a transmission project or a portfolio of transmission projects proposed by a Developer(s) to satisfy an identified Public Policy Transmission Need and for which the Developer(s) seek to be selected by the NYISO for purposes of allocating and recovering the project's costs under the OATT.[3] An Other Public Policy Project is a non-transmission project or a portfolio of transmission and non-transmission projects proposed by a Developer to satisfy an identified Public Policy Transmission Need. An Other Public Policy Project may consist of transmission, generation, and/or demand-side projects and is not eligible for selection for purposes of cost allocation and cost recovery under the NYISO's tariffs.[4]

Following the NYISO's presentation of the Viability & Sufficiency Assessment, the NYISO evaluates the proposed Public Policy Transmission Projects that have satisfied the viability and sufficiency requirements and complied with the requirements to proceed. The NYISO ranks the projects based on the quality of their satisfaction of numerous metrics set forth in the OATT. Based on this evaluation, the NYISO may select the more efficient or cost-effective Public Policy Transmission Project to satisfy the Public Policy Transmission Need, if any. The NYISO's Board of Directors will weigh the draft Public Policy Transmission Report from NYISO staff, input from stakeholders, and the views of the NYISO's Market Monitoring Unit on the impacts of the proposed transmission projects on the NYISO's competitive wholesale electricity markets, in determining whether and which project to select.[5] A Public Policy Transmission Project selected as the more efficient or cost-effective solution is eligible for cost allocation and cost recovery under the OATT.[6] The assumptions, inputs, methodologies, and results of the NYISO's analysis are published in the Public Policy Transmission Planning Report.

This NYC PPTN Viability & Sufficiency Assessment report details the background, methods, and results of the assessment that determine whether each proposal submitted by a Developer is viable and sufficient to satisfy the Public Policy Transmission Need.

[3] *See* OATT § 31.1.
[4] *See* OATT § 31.1.
[5] *See* OATT § 31.4.
[6] *See* OATT §§ 6.10, 31.5. An Other Public Policy Project is not eligible for selection for purposes of cost allocation and cost recovery under the NYISO's tariffs. *Id.*

2. Summary of the Public Policy Transmission Need

On August 31, 2022, the NYISO issued a letter inviting stakeholders and interested parties to submit proposed transmission needs driven by Public Policy Requirements to the NYISO on or before October 31, 2022.[7] On November 3, 2022, the NYISO posted proposed transmission needs driven by Public Policy Requirements submitted by seventeen entities to the NYISO website and submitted the same to the NYPSC.[8] On November 8, 2022, the NYISO also submitted to the Long Island Power Authority nine proposals for transmission needs that, as proposed, would require a physical modification to transmission facilities in the Long Island Transmission District. On December 21, 2022, the NYPSC published the proposed needs in the State Register for comments in accordance with the State Administrative Procedure Act.[9]

Following the public comment period, the NYPSC issued an order on June 22, 2023 establishing the NYC PPTN.[10] In referring the NYC PPTN to the NYISO to solicit solutions in the Public Policy Process, the NYPSC identified technical requirements for the NYC PPTN, stating that:

> The [NYPSC] finds that the CLCPA constitutes a Public Policy Requirement driving the need for transmission to support the injection of offshore wind generation into New York City (NYISO Zone J). Solicitations to that need shall:
>
> 1) Accommodate the full output of at least 4,770 MW of incremental offshore wind generation injected into New York City (Zone J), under applicable reliability standards, without reducing the overall output of other renewable resources interconnected in Zones J and K.
> 2) Consist of complete end-to-end proposals comprised of both offshore and onshore components to enable power injection into Zone J. The components should include:
>   a. One or more offshore interconnection point(s);
>   b. Offshore transmission (i.e., submarine cables);
>   c. Sites for cable landing points;
>   d. Onshore transmission path(s) (i.e., terrestrial cables) from cable landing points to points of interconnection (POIs) in Zone J, including sites for converter stations, if necessary; and

[7] The requirements for the Public Policy Transmission Planning Process are set forth in Attachment Y of the OATT and the NYISO Public Policy Transmission Planning Process Manual ("Public Policy Manual").

[8] The NYISO posted these submittals on its Planning Studies website under "Proposed Needs" contained within the "Public Policy Documents" folder on the NYISO's Planning Studies website, which can be accessed at: https://www.nyiso.com/cspp.

[9] Notice of Proposed Rulemaking, Proposed Public Policy Transmission Needs/Public Policy Requirements, As Defined Under the NYISO Tariff, New York State Register (December 21, 2022), *available at* https://dos.ny.gov/system/files/documents/2022/12/122122.pdf.

[10] Case No. 22-E-0633, *Matter of New York Indep. Sys. Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2022*, Order Addressing Public Policy Requirements for Transmission Planning Purposes (June 22, 2023), at 45-46 ("Order"), *available at* https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A077E488-0000-C217-BAED-C4B0826480C5}.

e. Necessary improvements to and/or expansion of the existing onshore transmission system.

3) Include plans for how offshore wind generation would interconnect to the end-to-end transmission proposal at the offshore interconnection points. Examples may include, but are not limited to, individual standalone DC connectors, each for a single offshore wind project; or an offshore substation for HVDC cable(s) and offshore wind project export line(s).

4) Demonstrate plans to complete all permitting and construction activities necessary to achieve an in-service date no later than January 1, 2033.[11]

In the Order, the NYPSC also specified the following criteria for the NYISO consider in its evaluation in accordance with its OATT:

1) Scenarios representing up to 8,000 MW of incremental offshore wind generation injected into New York City should be used to evaluate the performance of proposed solutions with respect to expandability, renewable energy delivery, and other metrics as defined in the OATT;

2) Proposed solutions that minimize, to the extent possible, the use of AC submarine cables in constrained areas identified in NYSERDA's 2022 offshore wind solicitation (ORECRFP22-1), pursuant to the Order on Power Grid Study Recommendations shall be valued in the evaluation process;

3) Proposed solutions that demonstrate that they do not preclude or foreclose on the ability to expand and/or integrate into a future offshore transmission network shall be valued in the evaluation process;

4) No requirement to relieve bulk export constraints on the interface from Zone J to the rest of the New York Control Area during light load conditions.

5) Proposed solutions that optimize the use of intended corridors to achieve the intended level of offshore wind integration and account for the findings of NYSERDA's Cable Corridor Assessment shall be valued in the evaluation process; and

6) Proposed solutions should take into consideration potential interference and/or synergy with the Long Island Offshore Wind Export PPTN.

In addition to technical requirements and evaluation criteria, the Order proposes supplemental criteria outlined in its Appendix B for consideration during the NYISO's evaluation and ranking of proposed projects, including twelve design principles for Developers to optimize routing of multiple offshore wind cables in the marine environment, at landfalls, and over land. The Order also stressed the importance of Developers having the necessary real property rights for the development of their proposed solutions so that they are "in a position to move forward promptly in order to meet the 2033 in-service

[11] *Id.* at Appendix A, p 1.

date."[12] In doing so, the Order specified an evaluation criterion to consider the extent that each Developer has the necessary real property rights to implement its proposed Public Policy Transmission Project.[13]

2.1 Sufficiency Criteria

The NYISO established sufficiency criteria in accordance with the criteria set forth by the Order. Prior to the opening of the NYC PPTN solicitation window, the NYISO made presentations at combined meetings of the Transmission Planning Advisory Subcommittee (TPAS) and the Electric System Planning Working Group (ESPWG)[14] to review the NYPSC's determination of the Public Policy Requirement and the nature of the resulting NYC PPTN, including the sufficiency criteria established.[15] The NYISO held technical conferences on November 6, 2023 and December 7, 2023 with Developers and interested parties to provide additional information and to obtain their input on the selection metrics set forth in Section 31.4.8.1 of the OATT for purposes of soliciting solutions to the Public Policy Transmission Need.[16]

Appendix A provides the details of the sufficiency criteria that the NYISO applied to determine the sufficiency of each proposed solution to satisfy the NYC PPTN.

2.2 Sufficiency Assessment Methodology

The process for developing the study cases for the Viability & Sufficiency Assessment is described in Section 4 of the NYISO Public Policy Transmission Planning Process Manual. The NYISO used a power flow model to assess the proposed solutions satisfaction of the criteria for the NYC PPTN. The Viability & Sufficiency Assessment baseline case for the NYC PPTN is based on the NYISO 2023 FERC 715 system representation filing with modifications in accordance with NYISO's tariff and procedures and as required by the Order identifying the NYC PPTN. The major modifications and assumptions in the Viability & Sufficiency Assessment baseline case can be found in Appendix A of this report. The baseline case was made available to Developers prior to the opening of the solicitation window.

The NYISO used the Viability & Sufficiency Assessment baseline case to conduct transmission security analysis of the transmission system in Zone J. Transmission security is the ability of the power system to withstand disturbances, such as short circuits or unanticipated loss of system elements, and continue to supply electricity. Security is assessed deterministically with potential disturbances being applied

[12] *Id.* at 43.
[13] *Id.*
[14] Meetings were held on July 25, 2023, August 22, 2023, September 21, 2023, October 2, 2023, October 24, 2023, November 21, 2023, December 19, 2023, January 23, 2024, February 6, 2024, February 22, 2024, March 8, 2024, and March 21, 2024.
[15] The NYISO's presentations are posted on its website under meeting materials at the following link: https://www.nyiso.com/espwg.
[16] OATT § 31.4.4.3.1; Public Policy Manual § 3.2.

without concern for the likelihood that the disturbance will occur. These disturbances (single-element and multiple-element contingencies) are categorized as the design criteria contingencies.

The NYISO conducts transmission security analysis of the BPTFs and non-BPTFs (100 kV and above) in accordance with applicable NERC Reliability Standards, NPCC Transmission Design Criteria, NYSRC Reliability Rules, and local Transmission Owner planning criteria. To evaluate the impact of a single event from the normal system condition (N-1), all design criteria contingencies are evaluated, including single element, common structure, stuck breaker, generator, bus, and HVDC facilities contingencies. Generation is dispatched to match load plus system losses, while respecting transmission security, subject to the sufficiency criteria constraints described in Appendix A.

An N-1 violation occurs when the power flow on the monitored facility is greater than its applicable post-contingency rating. N-1-0 and N-1-1 analysis evaluates the ability of the system to meet design criteria after a critical element has already been lost. The process of N-1-0 and N-1-1 testing allows for corrective actions between the first and second contingencies. However, this assessment did not reduce the output of renewables in accordance with the Sufficiency Criteria. These corrective actions prepare the system for the next contingency by reducing the flow to normal rating after the first contingency. An N-1-0 violation occurs when the flow cannot be reduced to below the normal rating following the first contingency. An N-1-1 violation occurs when the facility loading is reduced to below the normal rating following the first contingency, but the power flow following the second contingency is greater than the applicable post-contingency rating.

The proposed solutions were modeled in the Viability & Sufficiency Assessment baseline case.[17] When applying the design criteria contingencies, the system impacts are assessed to confirm that no thermal or voltage criteria violations are driven by the injection of 4,770 MW of offshore wind generation into Zone J.

The NYISO performed AC contingency analysis using the Siemens PTI PSS®E and PowerGEM TARA programs.

[17] The NYISO modeled the proposed solutions, which included the project to address the need that consists of new transmission facilities or Public Policy Transmission Upgrades, as well as any preliminary identification of interconnection facilities (*i.e.*, potential Network Upgrade Facilities) identified by the Developer based on its estimation of what is necessary for the reliable interconnection of the proposed solution.

3. Viability & Sufficiency Assessment Results

Prior to issuing a solicitation for proposed Public Policy Transmission Projects and Other Public Policy Projects to address the NYC PPTN, the NYISO actively engaged with stakeholders through its governance process and two technical conferences held on November 6, 2023 and December 7, 2023. The NYISO also addressed questions from Developers and other parties seeking clarification on the process and the criteria to be used by the NYISO to assess proposed solutions. The NYISO summarized the questions and provided responses in four public Frequently Asked Questions (FAQ) documents.[18] Additionally, the New York Department of Public Service (NYDPS) staff filed three Question & Answer (Q&A) documents with the NYPSC to provide additional clarity pertaining to the Order identifying the NYC PPTN.[19]

On April 4, 2024, the NYISO issued a solicitation for Public Policy Transmission Projects and Other Public Policy Projects to address the NYC PPTN. Project proposals were due on or before June 3, 2024.[20] The NYISO further extended the deadline to submit proposals to June 17, 2024. The NYISO received a total of 28 Public Policy Transmission Project proposals from four separate developers. The NYISO posted on its website a list of the submitted proposed solutions.[21]

The NYISO evaluated the viability of all projects in accordance with the considerations outlined in Section 31.4.6.3 of the OATT. The NYISO evaluated the sufficiency of all proposed projects by conducting a comparable transmission security analysis of each project. As more fully described in Section 2, above, the focus of this analysis is to identify if the proposed Zone J connected offshore wind generation can securely be injected into Zone J following the addition of each proposed project.

Table 1 below lists the findings of the Viability & Sufficiency assessment for each proposed project.

[18] The NYC Offshore Wind PPTN FAQ documents are posted on the NYISO website at https://www.nyiso.com/cspp under the "NYC Offshore Wind PPTN" folder.

[19] The NYC Offshore Wind Q&A documents can be found on the NYISO website at https://www.nyiso.com/cspp under the "NYC Offshore Wind PPTN" folder.

[20] The NYC Offshore Wind PPTN Solicitation is posted at: https://www.nyiso.com/documents/20142/40894368/New-York-City-Offshore-Wind-Public-Policy-Transmission-Need-Project-Solicitation.pdf/90f7cebe-e8f0-e094-1aa1-f61cc55dd84f.

[21] The NYC Offshore Wind PPTN list of proposed solutions is posted on the NYISO website at: https://www.nyiso.com/documents/20142/40894368/New-York-City-Offshore-Wind-PPTN-Project-Descriptions.pdf/30e66bde-7e68-11da-b4a3-9b0b2569f18b.

Table 1: Viability & Sufficiency Assessment Results

Developer	Project Name	Project #	Viable?	Sufficient?
EnergyRe Giga-Projects USA, LLC	Clean Borough Power Link #1	T102	Yes	Yes
EnergyRe Giga-Projects USA, LLC	Clean Borough Power Link #2	T103	Yes	Yes
EnergyRe Giga-Projects USA, LLC	Clean Borough Power Link #3	T104	Yes	Yes
Viridon New York Inc.	Liberty Link 1	T105	Yes	Yes
Viridon New York Inc.	Liberty Link 2	T106	Yes	Yes
Viridon New York Inc.	Liberty Link 3	T107	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 1	T108	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 2	T109	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 3	T110	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 4	T111	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 5	T112	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 6	T113	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 7	T114	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 8	T115	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 9	T116	Yes	Yes
New York Transco, LLC	Energy Link New York Solution 10	T117	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Mint	T118	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Sage	T119	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Olive	T120	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Kelly	T121	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Hazel	T122	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Navy	T123	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Royal	T124	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Cobalt	T125	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Ruby	T126	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Rose	T127	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Honey	T128	Yes	Yes
NYPA & LS Power Grid New York Corporation I	Five Boro Energy Connect – Golden	T129	Yes	Yes

4. Conclusions

The NYISO performed a comparable analysis of the proposed Public Policy Transmission Projects to determine whether each solution satisfies the New York City Offshore Wind Public Policy Transmission Need. The NYISO determined that all 28 proposed projects, listed below, meet the requirements of the viability and sufficiency criteria:

- EnergyRe Giga-Projects USA, LLC - Clean Borough Power Link #1
- EnergyRe Giga-Projects USA, LLC - Clean Borough Power Link #2
- EnergyRe Giga-Projects USA, LLC - Clean Borough Power Link #3
- Viridon New York Inc. – Liberty Link 1
- Viridon New York Inc. – Liberty Link 2
- Viridon New York Inc. – Liberty Link 3
- New York Transco, LLC - Energy Link New York Solution 1
- New York Transco, LLC - Energy Link New York Solution 2
- New York Transco, LLC - Energy Link New York Solution 3
- New York Transco, LLC - Energy Link New York Solution 4
- New York Transco, LLC - Energy Link New York Solution 5
- New York Transco, LLC - Energy Link New York Solution 6
- New York Transco, LLC - Energy Link New York Solution 7
- New York Transco, LLC - Energy Link New York Solution 8
- New York Transco, LLC - Energy Link New York Solution 9
- New York Transco, LLC - Energy Link New York Solution 10
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Mint
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Sage
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Olive
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Kelly
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Hazel
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Navy
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy

Connect – Royal

- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Cobalt
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Ruby
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Rose
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Honey
- New York Power Authority & LS Power Grid New York Corporation I - Five Boro Energy Connect – Golden

5. Next Steps

The NYISO presented the Viability & Sufficiency Assessment draft results at the ESPWG meeting on October 21, 2024. The NYISO received comments on the results from several interested parties, which it posted on its website on October 28, 2024.[22] Following the issuance and posting on its website of the final Viability & Sufficiency Assessment, the NYISO will file the Viability & Sufficiency Assessment with the NYPSC.

Following the filing of the Viability & Sufficiency Assessment with the NYPSC, the NYISO will begin its evaluation of the viable and sufficient Public Policy Transmission Projects that elect[23] to proceed to identify the more efficient or cost-effective Public Policy Transmission Project. The NYISO will rank these Public Policy Transmission Projects based on their satisfaction of the metrics set forth in the tariffs and consistent with the NYPSC Order and document its findings and recommendations in a New York City Offshore Wind Public Policy Transmission Planning Report. Based upon the findings and recommendation in the report and input from stakeholders, interested parties, and the NYISO's Market Monitoring Unit, the NYISO Board of Directors may select the more efficient or cost-effective Public Policy Transmission Project to meet the New York City Offshore Wind Public Policy Transmission Need, if any.

[22] Comments on NYC Offshore Wind PPTN Viability and Sufficiency Assessment draft results are posted on the NYISO website at: https://www.nyiso.com/documents/20142/40894368/NYC-PPTN-Comments-Viability-and-Sufficiency-Assessment.zip/6d3ac18a-833d-5a1e-017e-7e0315d0f338

[23] Within 15 Calendar Days of the NYISO filing the Viability & Sufficiency Assessment with the NYPSC, unless extended by the NYISO pursuant to Sections 31.1.8.7 and 31.4.6.6 of the OATT, the Developer of a proposed Public Policy Transmission Project that the NYISO has determined is viable and sufficient must notify the NYISO whether it intends for its project to proceed to be evaluated for purposes of the NYISO's selection of the more efficient or cost-effective Public Policy Transmission Project to satisfy the New York City Offshore Wind PPTN. A Developer, along with its notice to proceed, must demonstrate that it has an executed System Impact Study Agreement for the Public Policy Transmission Project.

Appendix A: Sufficiency Criteria

In order to address the New York City Offshore Wind Public Policy Transmission Need ("NYC PPTN") as identified by the New York State Public Commission (NYPSC), proposed Public Policy Transmission Projects are required to meet the following minimum sufficiency criteria:

- Accommodate the full output of at least 4,770 MW of incremental offshore wind generation injected into New York City (Zone J), under applicable reliability standards, without reducing the overall output of other renewable resources interconnected in Zones J and K;
- Consist of complete end-to-end proposals comprised of both offshore and onshore components to enable power injection into Zone J. The components should include:
  - One or more offshore interconnection point(s),
  - Offshore transmission (*i.e.*, submarine cables),
  - Sites for cable landing points
  - Onshore transmission path(s) (*i.e.*, terrestrial cables) from cable landing points to points of interconnection (POIs) in Zone J, including sites for converter stations, if necessary, and
  - Necessary improvements to and/or expansion of the existing onshore transmission system;
- Include plans for how offshore wind generation would interconnect to the end-to-end transmission proposal at the offshore interconnection points. Examples may include, but are not limited to, individual standalone DC connectors, each for a single offshore wind project; or an offshore substation for HVDC cable(s) and offshore wind project export line(s); and
- Demonstrate plans to complete all permitting and construction activities necessary to achieve an in-service date no later than January 1, 2033.

The New York State Department of Public Service (NYDPS) filed three documents, on September 7, 2023,[24] January 17, 2024,[25] and February 14, 2024,[26] that addressed questions on the requirements contained in the Order.[27] Additionally, NYDPS, in a letter to the NYISO, further provided direction in

[24] Case No. 22-E-0633, *Matter of New York Indep. Sys. Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2022*, Letter with Question/Answer for NYC Public Policy Transmission Need (September 7, 2023), *available at* https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={D0D6748A-0000-C412-9633-A73311B58EDF}.

[25] Case No. 22-E-0633, *Matter of New York Indep. Sys. Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2022*, Letter with Question & Answer (January 17, 2024), *available at* https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5095188D-0000-C01B-9C28-4F73EBCD2D21}.

[26] Case No. 22-E-0633, *Matter of New York Indep. Sys. Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2022*, PPTN Questions and Answers (February 14, 2024), *available at* https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={70FAA88D-0000-C810-9C28-D8E1A22A61CB}.

[27] Case No. 22-E-0633, *Matter of New York Indep. Sys. Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2022*, Order Addressing Public Policy Requirements for Transmission Planning Purposes (June 22, 2023), at 45-46 ("Order"), *available at* https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A077E488-0000-C217-BAED-C4B0826480C5}.

preparing the Viability & Sufficiency Assessment baseline case in response to updates from the cancellation of Offshore Renewable Energy Certificate (OREC) agreements with two offshore wind generation projects.[28]

The Viability & Sufficiency Assessment baseline case for the NYC PPTN is based on the NYISO 2023 FERC 715 system representation filing with modifications consistent with NYISO's tariffs and procedures and as required by the Order.

The following summarize the major modifications:

- The following offshore wind generation are modeled as specified below:
  - ~816 MW connected to Zone J (New York City): 816 MW @ Gowanus 345 kV,
  - ~3,000 MW connected to Zone K (Long Island): 139 MW @ East Hampton 69 kV, 880 MW @ Holbrook 138 kV, 1,260 MW @ 138 kV lines connecting to Barrett 138 kV, 800 MW @ Ruland Rd 138 kV.

- The following major transmission projects are modeled as specified below:
  - T051 Propel NY Alt 5 solution to Long Island Offshore Wind Export PPTN,
  - Champlain-Hudson Power Express (~600 MW injection in VSA baseline case),
  - Clean Path NY (0 MW/0 Mvar injection into Zone J in the VSA baseline case),[29]
  - Brooklyn Clean Energy Hub, and
  - Eastern Queens substation.

Please note that the above assumptions are specific to the Viability & Sufficiency Assessment baseline case for the NYC PPTN.

- For the purpose of determining whether a proposed solution satisfies the NYC PPTN (*i.e.*, sufficiency), the following constraints do not need to be resolved:
  - Facilities operated at a voltage below 100 kV, and

[28] *See* Case No. 22-E-0633, *Matter of New York Indep. Sys. Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2022*, DPS Staff Letter to NYISO (February 14, 2024), *available at* https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={90F7A88D-0000-CF19-829E-3550AB1E4094}.

[29] *See* New York City Public Policy Transmission Need FAQ, at p 5 (rev. April 24, 2024), *available at* https://www.nyiso.com/documents/20142/40894368/New-York-City-PPTN-Technical%20-Conference-Nov-6-Revised.pdf/.

- Radial facilities that can be excluded for voltage and thermal violations monitoring for the post-contingency conditions as per NPCC and NYSRC performance requirements for the Bulk Power System. NERC Bulk Electric System exclusions may also apply.

- Non-compliance to planning criteria (thermal and voltage) observed in the Viability & Sufficiency Assessment baseline case shall not increase or worsen after addition of proposed project and associated offshore wind generation under various assessments (N-0, N-1, N-1-0, N-1-1).